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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,383	02/21/2002	Bryan Bees	027478-0102	5011

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EXAMINER

SANDERS JR, JOHN R

ART UNIT	PAPER NUMBER
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3735

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/078,383	Applicant(s) BEES, BRYAN	
	Examiner John R. Sanders	Art Unit 3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 25-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/21/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3 August 2006 have been fully considered but they are not persuasive.
2. In response to Applicant's argument that an ophthalmologic surgeon would not be motivated to incorporate the teachings of a device that has a purpose of being adhered to an eyeball (Kern's contact lens) into a device (Nyui's microscope) that is used by the surgeon when operating on an eyeball, the Examiner respectfully disagrees. Applicant has neglected to consider that the express purpose of Kerns, Jr. is not merely a contact lens device, but a device with spectral characteristics for attenuating the UV component of incident light upon the eye. As one of ordinary skill in the art would be aware, such spectrally attenuating characteristics are not reliant upon contact with the eye; that Kerns discloses a contact lens with such characteristics would not prevent an artisan of ordinary skill from recognizing that such characteristics are applicable to other devices which project light to the eye.
3. Applicant further argues that the device of Kerns is dependent upon the dilation/constriction of the eye for its functionality. Though Examiner does not disagree that the spectral profile of the lens is such that a change in pupillary diameter causes a differing amount of the UV component to be incident upon the eye, the actual profile of the lens is not dependent upon the action of the pupil. The specific spectral qualities of the filter disclosed by Kerns, Jr. are expressly disclosed as relating to the reduction of certain harmful wavelengths of light incident upon the retina. Therefore it is obvious to use a filter with the spectral characteristics

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taught by Kerns, Jr. in an optical device designed to project light onto the eye. As Nyui discloses directing light to the retina, said spectral characteristics are applicable to device disclosed by Nyui, and as such one of ordinary skill in the art would have found it obvious to modify the characteristics of the filter disclosed by Nyui to match those of the contact lens of Kerns, Jr., at least in order to reduce the intensity of UV and blue light impinging upon the retina, as taught by Kerns, Jr.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-19, 21-23 and 25-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,810,804 to Nyui ("Nyui") in view of U.S. Patent No. 6,305,801 to Kerns, Jr. ("Kerns, Jr.").**

6. Nyui clearly discloses an optical system with an illumination light system 1, a filter 20 that reduces light intensity in a specific subsection of the illumination beam, an objective lens 13, and a means 32 for moving the filter out of the observation path. Nyui does not disclose a spectral filter with the properties claimed in the instant invention.

7. Regarding claims 1-8 and 26-31, Kerns, Jr. teaches a spectral filter, in the form of a contact lens, with a plurality of radial regions each having a different transmission characteristic with regard to the wavelength and intensity of the incident light (abstract). Kerns, Jr. teaches a

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filter that absorbs portions of the light in different absorption regions, separated by flat absorption edges (FIGS. 5, 10). The purpose of the spectral filter of Kerns, Jr. is taught as a means of reducing the intensity of UV and blue light impinging upon the retina.

8. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the spectral qualities of a filter as taught by Kerns, Jr. to filter light incident upon the eye within an optical device used for projecting light onto the eye, such as Nyui, in order to reduce the intensity of UV and blue light impinging upon the retina.

9. Regarding claim 9, Kerns, Jr. does not expressly teach the blue light region being reduced by 90%. However, in column 6, lines 38-52, Kerns, Jr. teaches a wide range of transmission percentages for the range of 400-510 nm, indeed between 0 and 100%. It would have been obvious to one of ordinary skill in the art to reduce the transmission of blue light to 90% to further reduce the possible negative effects associated within that range of the spectrum.

10. Regarding claims 10-13, Kerns, Jr. teaches filter regions in the center of the lens that reduce the blue light spectrum by 50% (FIG. 6). In embodiment variations, wavelengths of 400-500 nm are attenuated by 40-60% (FIGS. 8 and 9). Kerns, Jr. also teaches an outer region of the lens that is optically clear (column 3, lines 8-37).

11. Regarding claims 14-18, 23 and 25-26, Nyui does not disclose axially and laterally aligning the filter with the eye in the x, y plane. However, it is common trade practice to have axially and laterally displaceable elements in an optical device, especially one relating to the eye. These elements are usually coupled to a control circuit incorporating an eye-tracking device. Their positions are altered based on the eye position data for purposes of aligning the effect of the device (retinal photography, laser surgery, keratotomy, etc.) and data collection (wavefront

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sensors, image detectors) to the proper location of the eye. It would have been obvious to one of ordinary skill in the art to move the filter; first, axially to alter the perceived size of the filtered light to match the pupil size of the eye (see Kerns, Jr., col. 3: 10-14); second, laterally to align the filter regions with the axis of the eye. This is automatically accomplished in Kerns, Jr. by the contact lens being in contact with the cornea.

12. Regarding claim 19, a movable filter is inherently movable either electronically or manually.

13. Regarding claim 21, Nyui in view of Kerns, Jr. does not teach the filter as a thin film, LCD or electrochromic film. However, these are all filter types that are commonly used in the art and, at the time of the invention, would have been obvious to an artisan of ordinary skill as means of reproduce the spectral characteristics taught by Kerns, Jr. for use in an optical device.

14. Regarding claim 22 and 26, Nyui does not expressly disclose a surgical microscope. However, surgical microscopes are known optical devices in the art for projecting light onto the eye and are comparable to Nyui with respect to illumination and magnification of components of the eye. At the time of the invention, it would have been obvious to one of ordinary skill in the art to apply the spectral properties of the filter disclosed by Kerns, Jr. to a filter in a surgical microscope in order to reducing the intensity of UV and blue light impinging upon the retina.

15. Regarding claims 32-35, light projected through a device such as disclosed by Nyui inherently propagates linearly. Considering that Applicant in the recent Amendment expresses the meaning of "linear" in the claim as directing to a path length that is not altered by a beamsplitter (though such a meaning is not being read into the claim by the Examiner), one of ordinary skill in the art is apprised of a plurality of possible functionally equivalent optical

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arrangement of device components in an optical microscope such a beamsplitter is not necessarily used to join/separate the beam paths.

16. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nyui in view of Kerns, Jr., and further in view of Dobrowolski et al., of record.

17. Nyui in view of Kerns, Jr. discloses the above limitations but do not expressly discloses having the x, y plane of the filter disposed non-normal to the beam. Dobrowolski teaches the use of filters at oblique angles to the beam axis used to filter the beam at predetermined wavelengths. It is also known in the art that changing the filter angle will alter the intensity transmittance properties of the filter, since the beam has to travel at an oblique angle through the filter media. It would have been obvious to one of ordinary skill in the art to dispose a filter with the spectral properties taught by Kerns, Jr. to be non-normal to the incident light in order to alter the transmittance properties of the filter, as in Dobrowolski.

18. Claims 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nyui in view of Kerns, Jr. as applied to claims 1 and 26 above, and further in view of U.S. Patent No. 5,442,487 to Mizuno ("Mizuno").

19. Nyui in view of Kerns, Jr. teaches the above limitations but does not expressly teach a device without a diaphragm component (see Nyui, ref. 10) such that the illumination light is incident upon the center of the objective lens. A diaphragm such as the one disclosed by Nyui is used minimize unwanted reflection from the center of the objective lens back along the optical path by relegating the incident light to the periphery of the objective lens and allowing the light

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reflected from the eye to pass through the center of the objective lens. As shown by Mizuno, other configurations of ophthalmic microscopes are known in which a diaphragm is not utilized (see Fig. 6). At the time of the invention one of ordinary skill in the art would have found it obvious to modify the teaching of Nyui in view of Kerns, Jr. such that at least a portion of a central region of the light emitted by the light source is incident on the main objective, at least because it is known in the art to have an ophthalmic microscope without said diaphragm.

Conclusion

20. Examiner's assertions of official notice and/or common knowledge or well-known in the art statements made in the prior Action are hereinafter taken to be admitted prior art because Applicant either failed to traverse the Examiner's assertion of official notice or that the traverse was inadequate. See MPEP § 2144.03 (c).

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Akiyama (US 6,126,287) and Satake et al (US 5,801,807) disclose ophthalmic imaging devices with filter elements.

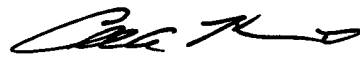
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R. Sanders whose telephone number is (571) 272-4742. The examiner can normally be reached on M-F 10:00 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


26 October 2006


Charles A. Marmor, II
SPE, Art Unit 3735